

Can an Internal Locus of Control and Social Support Reduce Work-Related Levels of Stress and Strain?

A Comparative Study Between Spanish Owners and Managers

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Objective: The aim of this article is to assess the role played by both individual and contextual factors in reducing the manager's levels of stress and strain within the workplace setting. This article also highlights the manager's locus of control (LOC) as an internal factor and emphasizes the social support variable as a contextual factor. **Methods:** We use a sample of 332 respondents belonging to Spanish manufacturing and services firms and a structural equation modeling technique (partial least squares path modeling). **Results:** The results reveal that there are significant differences between managers and owners about stress-strain relationship. **Conclusions:** The study provides support for the literature on stress management, which emphasizes the importance of a LOC and social support in influencing stress and strain between managers and owners.

Workplace stress is the unavoidable result of the deep social-economic and technological changes that society is currently facing¹; it constitutes a phenomenon of growing interest in the workplace and a critical problem for employees, employers, and society in general.² A study by Milczarek et al³ suggests that stress is the second most frequently reported work-related health problem, affecting 22% of workers in the European Union 27. Moreover, according to the latest European Survey of Working Conditions, 26.4% of private sector employees and 26.6% of those in the public sector reveal that they always or often experience stress during the performance of their jobs.⁴

Stress generates serious repercussions that are different in nature and whose costs are incalculable. Undoubtedly, high stress levels may have a significant impact on declines in productivity and reductions in effectiveness.⁵ Furthermore, the negative effects of this phenomenon entail a decreased capacity to perform, lower efficiency, dampened initiative, and higher rigidity of thought, which in turn leads to scarce interest in work, organizational matters, colleagues, and, finally, a loss of individual responsibility.^{6,7}

Most researchers seem to generally agree that stress is to be conceptualized as a process in which strain is generated from an individual-environment interaction.⁸ Indeed, organizational behavior researchers generally agree that stress and strain are positively

correlated.⁹ The stress process can lead to different forms of strain that affect, for instance, individuals' well-being, level of job satisfaction and rising absenteeism, and turnover rates, among other things.¹⁰⁻¹² Prolonged exposure to stress can result in fatigue, disease, disability, premature aging, and, ultimately, even death.¹³

Although the stress-strain relationship has been widely studied in general terms, there is scarce empirical research that analyses this phenomenon among professionals with managerial responsibilities at the corporate level, whether these executives are owners or simply managers. These two groups share characteristics that greatly differentiate them from employees without managerial responsibility: older age, higher educational level, independence, initiative, aversion to work routines and excessive formalization, increased decision-making responsibility, risk assumption tolerance, strong orientation towards economic or financial rewards, a greater need for achievement and success, tolerance to challenges and change, greater sense of pride, and the like.¹⁴⁻¹⁸ The intensity of the demands that these individuals face during the development of their work leads to higher levels of stress compared with the nonmanagerial staff.

Regardless, the prerogatives that are presupposed to managing professionals are not free; on the contrary, they can come at a high price. On most occasions, the work of managing and its requirements profoundly dominate the lives of owners, who are unable to establish a clear and precise boundary between work time and spare time. The need to constantly face uncertainty and the fear of failure place them in a situation of constant struggle, which demands from them a high dedication or investment in their physical and emotional resources. Other matters and worries related to owners indicated in the literature include personal sacrifices, an excessive load of responsibility, coexisting in work environments of high stress, the predominance of their professional life and the loss of psychological well-being.^{16,19,20} In addition to the harmful effects of stress specified above, this collective of people, upon whom rests the strategic management of the company, acquires special relevance due to the costs that stem from an impoverishment in decision-making, in addition to mistakes committed and opportunities squandered. Managers subjected to stress levels that exceed the limits of what is tolerable may not respond with the necessary creativity, may not be able to perceive the potential of a given situation, or may react with excessive conservatism.

To the best of our knowledge, there are no empirical studies that focus on performing an in-depth assessment of the effects that certain variables such as locus of control (LOC) and social support, which could protect owners and managers by weakening the harmful effects of stress, have on the stress-strain relationship among Spanish entrepreneurs and executives. Focusing on these subjects is a key element in designing measures that aim at reducing exposure to risk and that thus contribute to optimizing the performance of both owners and managers and simultaneously improving their levels of well-being and quality of life.

On the basis of the discussion above, the present work is intended to fill the gaps in research on this topic in the Spanish environment. Therefore, the purpose of this study is to investigate

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work stress among managers and owners in Spain. More specifically, our aim is to examine what types of work stress are related to strain, in addition to the role played by internal (LOC) and external (work support) resources. We expect that resources such as work support and an internal LOC will protect both owners and managers from the negative impact of stress. Managers who receive an adequate level of support can be confident that the responsibilities of the job and the stressors associated with it can be properly managed. Simultaneously, managers who consider that the results of their activity mostly depend on their own abilities, skills, or efforts are more likely to better manage situations of stress, and, therefore, develop lower levels of strain. An individual with an internal LOC orientation is less likely to be bothered by work stress and more effectively copes with circumstances than an individual with an external LOC orientation who believes that he/she is at the mercy of fate, luck, or chance.²¹

To that end, this article is structured as follows: section “DEVELOPMENT OF THE THEORETICAL FRAMEWORK” develops the theoretical framework; section “METHOD” presents the research methodology employed; section 4 “RESULTS” presents the main empirical results; and, finally, section “DISCUSSION” discusses the results and certain implications and the main limitations of the study.

DEVELOPMENT OF THE THEORETICAL FRAMEWORK

Relationship Between Stress and Strain

It is only recently that behavioral researchers have paid attention to the workplace-stress relationship, among other reasons, due to the difficulty in measuring a phenomenon that is occasionally diffuse, malleable, and changing, thus admitting different interpretations. The majority of behavioral analyses have lacked a consistent definition of stress. Some researchers approach the concept of stress on the basis of its causes; others, as a cumulative and interactive process; and others are concerned with studying how different people respond to stress. Simultaneously, the difficulty in defining the concept is intensified by the huge terminological imprecision, which stems from the existence of other more or less related terms, such as anxiety, depression, frustration, and pressure, which have been used interchangeably, thus generating confusion and delay in the implementation of their findings.

There are two main approaches concerning the study of stress.²² The first is a restrictive approach that conceptualizes stress as an excess of environmental demands on the individual’s ability to solve them; in other words, an overstimulation or overload. The second, which is a broader approach, entails a conceptualization of stress such as a lack of fit between the individual and the environment; it includes not only the situations referred to in the previous orientation but also the relationships between the subjects’ needs and the sources to satisfy these needs in the work environment. Here, we can of infrautilization or infrastimulation, in addition to overstimulation or overload. In this study, work-related stress has been defined as those work features that pose threats to an individual’s performance of the work’s tasks and functions. Although these features are often grouped around five basic dimensions, for the purposes of this study, one dimension, the physical environment, will not be considered because it is not relevant to the managerial work environment.^{23,24} Therefore, according to Caplan et al’s²⁵ model, the four considered dimensions are as follows: (a) role conflict, which indicates the degree to which the individual experiences demands and commitments that are inconsistent with his role; (b) role ambiguity, which is related to the labor conditions, in which the priorities, expectations, and criteria of evaluation are not clear for the individual to perform his role; (c) role overload, which is understood as the extent to which the labor demands exceed the personal resources of the individual and of the workplace and

the degree to which an employee or individual is unable to complete the expected assignments or work load; and (d) role insufficiency, which indicates the conditions under which the education, training, skills, and experience of the employee are incompatible with or inadequate to the job requirements. In this article, we have used the model of Caplan et al²⁵ because role stress emerges specifically by the performance of roles in the organization.²⁶ For this reason, it is the best approach for the purpose of our research.

Although there does not exist a universally accepted definition of stress, most researchers seem to agree on the variables that must be borne in mind to understand the ties between stress and health. House identifies up to five types of social-psychological variables related to measuring and integrating the workplace-stress relationship²⁷: (a) the social conditions that provoke stress, (b) the individual perceptions of stress, (c) the individual responses to stress (physiological, affective and behavioral), (d) the lasting consequences of perceived stress and the responses to it, and (e) the individual and situational moderators. From this perspective, numerous empirical studies confirm the important role played by work-related stress in strain. In this sense, using a sample of 117 American employees from a hospital supply company, Beehr et al²⁸ find a close correlation between role overload and role ambiguity with certain measures of tension, such as anxiety and the psychological strain of these employees. Adopting a broader definition, Srivastava² considers that strain can be related to the impact that stress has on effectiveness or ineffectiveness in the work area. In the present study, occupational or professional strain should be understood as the deviation of the response that an employee could normally have in a given situation. In this study, the strain variable has been conceptualized based on the works by Ilfeld,²⁹ who takes into account four psychiatric conditions: (a) depression—frequently feeling alone, bored, dejected or tired, a loss of sexual desire, and occasionally even suicidal ideations; (b) anxiety—frequently feeling angry or disgusted, the feeling of dizziness, trembling hands, avoidance behavior, and feeling scared or fearful; (c) cognitive disturbance: frequently experiencing difficulty in remembering things or concentrating (blank mind syndrome); and (d) anger—frequently losing serenity, easily feeling irritated or critical of others, becoming furious over trivial matters or wanting to annoy someone.

Although stress seems the unavoidable result of the process of owning and managing a business,³⁰ in the scientific literature, it is difficult to find studies that focus on analyzing the stress-strain relationship within the collective of managers, much less distinguishing between owners and nonowner managers. In this vein, Lu et al¹¹ compare the impact of stress on managers’ health in two samples from different countries: Taiwan and the UK. These authors conclude that there is a stress-strain relationship that is similar in both cases and in spite of the fact that the sources of stress were different: the managerial role (ensuring favorable work conditions) and recognition in Taiwan versus the organizational climate, relationships, and personal responsibility in the UK. Similarly, a study by Prottas and Thompson³¹ reveals that owners are subjected to greater job pressure due to their responsibility for the firm’s survival, such as managing payroll, hiring, firing, and negotiating with suppliers and customers. Although these demands are also shared by managers, the fact is that the owners’ link with the company is much more intense; thus, they may feel higher pressure than managers feel. In this sense, Rahim³² finds that owners, in contrast to managers, were subjected to a greater number of stressors such as role overload. This circumstance should result in increased risks to physical and mental health; however, in this sense, the empirical evidence is not as clear or conclusive. On the contrary, Rahim³² finds no differences in reported strain among owners and managers. Similarly, Grzywacz and Bass³³ find no differences with regard to problems of depression, anxiety, or alcohol consumption. Indeed, a study by Tetrick et al³⁴ reveals that

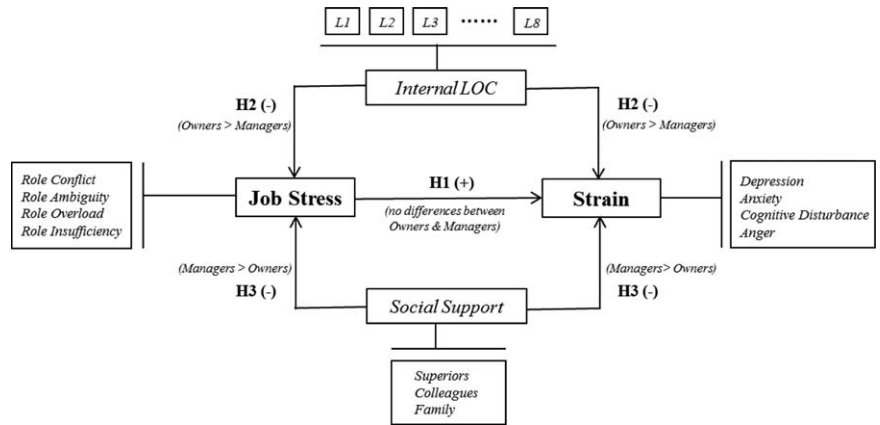


FIGURE 1. Research model and hypotheses.

owners present lower emotional exhaustion (strain) than managers and other employees. On the basis of the discussion above, we posit the following research hypothesis (Fig. 1):

H1. There are no differences between owners and managers with regard to the effect of job demands on strain.

Influence of Personality and Social Support on the Stress-Strain Relationship

As stated in the introduction of this work, there are many researchers who agree on the need to consider personality attributes and the social circumstances that influence the types of responses that an individual has to certain stressful situations. It seems clear that the agent of stress or the stressor must necessarily precede the stress, although its mere presence does not ensure that stress actually appears. The perception of a situation eventually charged with stress depends on the presence of other variables. Certain cultural and personal factors determine that an individual perceives a situation as challenging whereas another individual views it as a threat. If stress depends on how it is perceived by the individual and the resources at his disposal to address it, what is certain is that the resources available to owners and managers are different from those at the disposal of other employees. Undoubtedly, these circumstances affect the stressor-symptom relationship.

Influence Exerted by Locus of Control

LOC is a relatively stable property that refers to the widespread belief that the life events are controlled by one’s own actions (internal locus) or by external forces (external locus).³⁵ LOC is something that develops in individuals over time, and it is similar to a function of the accumulation of all previous experiences and their meanings. It is not something that changes or is quickly and easily altered, thus being an individual difference that is very unlikely to be altered by others. As a result, LOC is one of the most important personality variables for understanding the behavior of employees in the work environment.¹ According to Kahn and Byosiere,³⁶ it is important to include the concept of LOC in research studies that address work-related stress because subjects with an internal LOC will most likely better handle situations of stress, whereas employees with an external LOC tend to refrain from acting, not trusting in its ability to have an impact on the environment. Consequently, people with an internal LOC tend to have higher levels of health and welfare when faced with situations of stress at work. An internal LOC seems to indicate that the more an individual exerts control over a situation, the less likely he is to consider it threatening and thus reveal patterns of adverse reaction. However, a more accurate consideration suggests that subjects with an internal LOC are more likely to experience stress when they are unable to exercise the

control that they believe they have whereas those with an external LOC feel particularly threatened when they have the ability to exercise control over what is occurring. In this manner, the probability of experiencing stress is increased when beliefs and the manifested reality are inconsistent.

According to Tong and Wang,³⁷ LOC relates to several variables that are linked to personality, motivations, attitudes, and work-related behaviors, such as commitment to change,³⁸ stress and job satisfaction,³⁹ and performance.⁴⁰ In this sense, numerous studies empirically reveal that the personal characteristics of LOC moderate the stress-health relationship^{11,41} or modify the stress-strain relationship.⁹ (Against the predominantly working line, some studies have failed to demonstrate the hypothesis of the moderating role of the LOC. In this sense, Moyle and Parkes⁴² found that work LOC (WLC) had no influence, neither direct nor indirect, on psychological strain.) The most frequently found evidence suggests that individuals with an internal LOC tend to be more satisfied with their work and experience greater well-being.⁴³ These individuals have better health and attain higher levels of well-being in situations of high demand and control, whereas subjects with an external LOC experience greater tension in the same situation.⁴⁴ Compared with employees with a predominance of external LOC, those with an internal LOC perceive less stress, more autonomy and control, and tend to stay longer in the company.^{45,46} Similarly, other studies link internal LOC to lower levels of anxiety and stress in the workplace.⁴⁷ Similarly, Kalbers and Fogarty⁴⁸ find that employees with an internal LOC are less likely to experience high levels of stress, whereas those with an external LOC are more vulnerable to stress and are more likely to perceive events as stressful. Leung et al⁴⁹ also finds that external LOC leads to job dissatisfaction and psychological distress. The reasons for the effect of internal LOC on stress and strain is these individuals obtain and use information more effectively, they are able to get more out of their experience to improve their tasks and the results, and simultaneously, they believe more decisively in the effectiveness of their own efforts.⁵⁰

Although the effect of internal LOC on stress and strain seems clear and evident, its impact on professionals with managerial responsibility is less obvious. In this field, studies are very rare (we have identified none in the Spanish context), and they do not offer particularly conclusive results. Stress is a phenomenon that is particularly relevant for managers because it critically affects the effectiveness of their decision-making. In this vein, through hierarchical multiple regression analysis, a study by Srivastava, who used a sample of 200 managers belonging to Indian private organizations, shows that stress hinders managerial effectiveness, while internal LOC moderates this relationship.² In research on the behavior of entrepreneurs and managers, Rahim concludes that a person with a

high internal LOC believes that he can cope with stress functionally and more effectively than someone with a high external LOC.³² Similarly, Muhonen and Torkelson³⁹ conduct a study assessing the role of WLC in job satisfaction and health in the context of occupational stress. Their study, which was conducted among managers and nonmanagers at a Swedish telecommunications company, reveals that managers showed a greater internal LOC, which implies that status in the organization can be central for WLC. According to these authors, subjects with little access to power should develop an external LOC, whereas those who have managerial positions could develop more internal WLC beliefs. By directly comparing between owners and managers, Tetrick et al³⁴ presuppose that owners should receive lower levels of stress as a result of the higher degree of control that derives from the fact that they are owners, which should in turn result in lower levels of strain. However, using a multivariate analysis of variance, these authors find only significant differences between owners and managers in the role ambiguity of the work-related stress dimension (1.83 first and 2.46 seconds). More conclusive results concerning strain were because owners experienced lower levels of emotional exhaustion than managers.

Considering the discussion above, we posit the second research hypothesis (see Fig. 1):

H2. An internal LOC reduces stress and strain to a greater extent among owners than among managers.

Influence Exerted by Social Support

Regarding the concept of social support, multiple definitions, which have generally been somewhat vague or circular, have been formulated. Thus, for et al, social support is determined by the presence or relative absence of psychological support from significant people;²⁵ for Cobb, it concerns the information that allows people to believe that there are people who value them, care about them and love them, and who belong to a network of communication and mutual obligation⁵¹; for House,⁵² the crux of the issue is the availability of aid from other people.

It seems clear that the nature of the relationships that exist between individuals and their immediate surroundings, in addition to everything that culturally shapes them, has a relative impact on individuals' level of tolerance to stress. The absence of an atmosphere of trust among coworkers, superiors and subordinates may be a factor that decreases the level of tolerance to stress inherent to or experienced at work. From the perspective of the job-demand-control-support model of stress at work, Johnson and Hall⁵³ identify a context of low social support as one of the main stressors. In a similar vein, Harkness et al⁵⁴ point to the absence of social support and disrespectful communication as major stressors in the work of staff nurses and office staff.

For decades, the role played by social support in mitigating the effects of occupational stress has been a main research topic in the field of organizational psychology. Nevertheless, the impact of social support on stress is not clear,²⁸ much less its effect on certain groups such as those who are the subject of this research. In this manner, the review by Knox Haly⁵⁵ shows that some studies have found that social support exerts a direct effect on work-related stress.^{56,57} However, another group of studies has either found a more ambiguous relationship (eg,⁵⁸) or has not found any relationship (eg,⁵⁹). Moreover, the review by Knox Haly⁵⁵ finds two studies that revealed a positive relationship between social support and the effects of stress.^{60,61}

Undoubtedly, one analytical perspective that has largely occupied the attention of researchers concerns the features of social support in the process of occupational stress. Based on the assumption that work-related stress has adverse effects on

health, House⁵² argues that social support can influence this process in three ways. First, it can directly improve health because it meets important needs of the individual, such as affiliation, membership, and adoption. In this manner, social support in stressful situations may counteract the negative effects on health to produce positive outcomes. Second, social support can reduce the experiences of occupational stress in different ways and therefore indirectly improve health. On numerous occasions, coworkers and supervisors are providers of support who can minimize interpersonal conflicts and pressures. Third, social support can mitigate the negative effects of stress on health and psychological well-being. Thus, in addition to the direct effects on stress and their consequences, social support has a buffering effect on the relationship.

The effect of social support in stress and strain is neither clear nor conclusive.⁶² For instance, Swanson and Power⁶³ assess the effect of social support on a sample comprising British public utility employees. The results confirm that workers who received social support from their superiors showed lower levels of role conflict, role ambiguity and role overload. The same occurs when they received peer support, although only with regard to role conflict and role ambiguity. Similar results are obtained in a study by Pelfrene et al,⁶⁴ who use a sample of more than 20,000 employees from 25 Belgian organizations, and a study by Nelson et al,⁶⁵ who examine 415 British teachers of students with emotional behavioral disorders. Beehr et al²⁸ also analyze the moderating effect of social support on the stress-strain relationship by using a sample of 117 American employees from a hospital supply company, finding strong correlations between work load/work ambiguity and the anxiety/psychological strain measures. The strongest correlation discovered is between workload and psychological strain, whereas the weakest is between role ambiguity and anxiety. According to these authors, the different types of social support exercise a moderating effect, regardless of the stressor (workload or work ambiguity) and the nature of the stress (anxiety or psychological strain).

According to Pinneau,⁶⁶ social support leads to three main effects: (a) it reduces potential stressors (preventive effect), (b) it decreases strain (therapeutic effect), and (c) it reduces the impact of stress on strain (moderating effect). By directly comparing owners and managers, Tetrick et al³⁴ posit that, compared with managers, owners are expected to have a deficit in social support as a result of the greater difficulty in finding support among sources of social support that have their origin in the environment (colleagues and superiors). As a consequence of the results obtained by these authors, only the preventive effect receives support, suggesting that social support directly acts to reduce perceived stress. In line with Geller and Hobfoll,⁶⁷ who assert that social support has been viewed as a resource that reduces strain, the third hypothesis of this research is proposed as follows (see Fig. 1):

H3. Social support reduces stress and strain to a greater extent among managers than among owners.

METHOD

Data Collection and Sample

To conduct this research, we prepared a questionnaire that encompassed items aimed at measuring the distinct variables of the research model. This questionnaire was sent to a sample of 1000 enterprises randomly selected from a list obtained from the Chamber of Commerce of Seville (Spain). A letter explaining the purpose of the study and a self-addressed envelope (if the respondent preferred to complete the questionnaire without the presence of the interviewer and send it anonymously by mail) accompanied each

questionnaire. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of Universidad Loyola Andalucía (Spain). The fieldwork (delivery and collection of questionnaires) was performed during from October to December 2014.

Our mailing effort yielded a total of 369 questionnaires; of these, 37 were ruled out because some sections were incomplete. Thus, our final sample is composed of 332 questionnaires, which represents a response rate of 33.2%. Of the 332 valid responses, 53.1% represent owners (176) and 46.9% managers (156). By sector of activity, the majority of owners and managers work in the services sector (44.9% of owners and 47.4% of managers) and the manufacturing sector (23.9% and 19.25%, respectively). Finally, most of the respondents are male (84%), are married (77%), and live in urban spaces (69.9%).

Measures

Table 1 presents the main descriptive statistics concerning the considered measures and the differences between the subsamples of owners and managers.

Stress

For the purpose of this study, job stress has been defined as those features of the work that pose a threat to an individual’s performance of tasks and functions. In particular, the dimensions to be evaluated are as follows: role conflict, role ambiguity, role overload, and role insufficiency. These four dimensions of work-related stress have been measured by using the scale by Caplan et al,²⁵ which consists of 14 items measured with a five-point Likert scale (5 = always, 1 = rarely or never). A high score on this instrument signifies a great deal of stress experienced by the subject. The following are some examples of items: *I receive incompatible requests from two or more people at the same time* (role conflict); *My job has clear goals and objectives* (role ambiguity); *I do not have sufficient time to do all things I feel should be done* (role overload); *My training, skills, education, and experience are insufficient to meet job requirements* (role insufficiency). Caplan et al²⁵ report that the internal consistency of the instrument varies between 0.74 and 0.90. Numerous published papers that have used this scale have reported the construct validity and criterion validity of this stress-measuring instrument. The Cronbach’s alpha for this scale

was 0.778: role conflict (0.796), role ambiguity (0.803), role overload (0.686), and role insufficiency (0.598).

Strain

The 29 items of the Psychiatric Symptoms Index (PSI) developed by Ilfeld²⁹ measure occupational strain. PSI comprises four dimensions or psychiatric conditions: depression (ie, *Feel bored or have little interest in things*), anxiety (ie, *Have to avoid certain things places activities because they frightened you?*), cognitive disturbance (ie, *Have your mind go blank?*), and anger (ie, *Feel easily annoyed or irritated?*). Each of the items in this instrument is measured with a four-point scale (0 = never, 1 = sometimes, 2 = frequently, 3 = always). A high score on this instrument indicates a high frequency of psychiatric symptoms. The PSI is an abbreviated version of the Hopkins Symptom Distress Checklist and was developed through a factorial analysis, using data from 2299 adult patients. Ilfeld²⁹ demonstrates the validity and reliability of this instrument. Our research obtained an alpha coefficient of 0.911: depression (0.784), anxiety (0.824), cognitive disturbance (0.663), and anger (0.845)

Locus of Control

LOC refers to the extent to which individuals feel that they can control the things that happen to and affect them.³⁵ In this study, LOC is measured by the eight items shaping the internal LOC scale developed by Levenson.⁶⁸ An example of this scale is the following: *I can pretty much determine what will happen in my life*. To that end, this instruments uses a five-point scale (5 = strongly agree, 1 = strongly disagree). A high score on this instrument (maximum score is 40 points) indicates an internal LOC of the respondent, and a low score indicates an external LOC. Levenson⁶⁸ obtains evidence of the scale’s consistency and validity. Further evidence of the psychometric properties of this measurement instrument is provided by Fusilier et al.⁶⁹ In our study, the Cronbach’s alpha was 0.638.

Social Support

Social support is understood as the availability of help from others in times of need. This study considers three dimensions of social support (supervisors/bosses, peers, and family/friends), measured by the social support scale designed by Caplan et al.²⁵ The following is an example of item: *How easy is to talk with your...*

TABLE 1. Means and Standard Deviations of all Variables for Owners and Managers

Valor	Owners (N = 176)		Managers (N = 156)		Sig. (*)
	M	SD	M	SD	
Stress					
Role conflict	1.84	0.74	2.03	0.83	0.05
Role ambiguity	1.98	0.72	2.14	0.76	0.041
Role overload	2.95	0.80	2.92	0.77	0.728 (n.s.)
Role Insufficiency	2.66	0.84	2.62	0.76	0.661 (n.s.)
Strain					
Depression	0.59	0.42	0.57	0.41	0.719 (n.s.)
Anxiety	0.69	0.48	0.59	0.44	0.046
Cognitive Disturbance	0.87	0.51	0.74	0.48	0.016
Anger	1.12	0.75	1.00	0.60	0.125 (n.s.)
Locus of control	3.36	0.64	3.41	0.60	0.466 (n.s.)
Social support					
Superiors	0.47	1.07	2.59	0.95	0.000
Colleagues	2.51	1.11	2.90	0.76	0.000
Family	3.22	0.79	3.48	0.56	0.001

*Significant difference at a 95% confidence interval. n.s., nonsignificant difference.

TABLE 2. Measurement Model 1: Managers

Construct/Indicator	Loading	Composite Reliability	AVE
Stress		0.7363	0.5287
Role conflict	0.7748		
Role ambiguity	0.7429		
Role overload	0.6703		
Role insufficiency	0.7363		
Strain		0.8951	0.6812
Depression	0.8663		
Anxiety	0.8673		
Cognitive disturbance	0.7897		
Anger	0.7736		
Locus of control		0.7754	0.5367
L1	0.7409		
L2	0.7974		
L3	0.6521		
L4	0.7964		
L5	0.7172		
L6	0.8330		
L7	0.7935		
L8	0.7809		
Social support		0.7217	0.6174
Superiors	0.9046		
Colleagues	0.6418		
Family	0.7486		

AVE, average variance extracted.

(supervisors/bosses, peers, and family/friends)? Each of the three dimensions comprises four items that are measured with a five-point Likert scale (4 = much, 1 = nothing, 0 = I do not have any of these people). A high score indicates a greater level of social support received by an individual. The reliability estimates in this study for the three dimensions was 0.942 (supervisor support), 0.828 (co-workers support), and 0.729 (family support).

Data Analysis

The research model described in Fig. 1 has been tested by using partial least squares (PLS) path modeling, a variance-based structural equation modeling technique.⁷⁰ PLS simultaneously enables the assessment of the reliability and validity of the measures of theoretical constructs (outer model) and the estimation of the relationships among these constructs (inner model).⁷¹ The use of PLS is justified for the following reasons: (1) this study is oriented toward the prediction of the dependent variables⁷²; (2) the sample size ($n = 156$ and $n = 176$) is small, and according to Reinartz et al,⁷³ PLS should be applied when the number of observations is lower than 250; (3) the research model is complex with regard to the types of variables (second-order constructs); and (4) this study uses latent variable scores in the subsequent analysis for predictive relevance.⁷⁴ We have used the SmartPLS 2.0 software (SmartPLS GmbH, Hamburg, Germany).⁷⁵

We followed a two-step approach to operationalize the multidimensional superordinate constructs.⁷² Accordingly, the items for each dimension were optimally weighted and combined, using the PLS algorithm to create a latent variable score. As a result, the dimensions or first-order factors became the observed indicators of the second-order constructs, which are the STRESS and STRAIN variables.⁷⁶

RESULTS

A PLS model is assessed and interpreted in two stages: (1) the evaluation of the reliability and validity of the measurement model (outer model) and (2) the assessment of the structural model (inner model). This sequence guarantees that the construct measures are

valid and reliable before attempting to draw conclusions regarding the relationships between constructs.⁷⁰

Measurement Model

Our results reveal that the measurement model is entirely satisfactory. First, most of the standardized loadings are greater than 0.707 (Tables 2 and 3). According to Hair et al,⁷⁷ the indicator's outer loadings should be higher than the threshold of 0.707. The indicators comprising the outer loadings between 0.4 and 0.7 should be removed only if the deletion leads to an increase in the composite reliability and average variance extracted (AVE) above the suggested threshold value. Consequently, because some of our loadings are lower but close to the threshold (ie, 0.6703, 0.6418, 0.6674, 0.6224, 0.6774, and 0.6517), we maintain all of the indicators and argue that the reliability of the individual items is adequate.⁷⁸ Second, all variables meet the requirement of construct reliability because their composite reliabilities are greater than 0.7⁷⁹ (Tables 2 and 3).

In addition, these latent variables achieve convergent validity because their AVE values surpass the critical level of 0.5⁸⁰ (Tables 1 and 2). Finally, all of the variables reach discriminant validity achieved via the comparison of the square root of the AVE and the correlations (Table 4). For satisfactory discriminant validity, the diagonal elements (in bold) should be significantly greater than the off-diagonal elements in the corresponding rows and columns.

Structural Model

Table 5 reveals the explained variance (R^2) in the dependent constructs and the path coefficients for the different models considered (Models 1 and 2). Consistent with Hair et al,⁷⁴ bootstrapping (5000 resamples) was used to generate standard errors and t statistics, which enable the assessment of the statistical significance of the relationships considered in the models.

Table 5 includes the direct relationships hypothesized between STRESS, STRAIN, LOC, and SUPPORT for the two research models considered (Models 1 and 2). As shown in Table 4, we find support for all of the direct links hypothesized in Model 1 of

TABLE 3. Measurement Model 2: Owners

Construct/Indicator	Loading	Composite Reliability	AVE
Stress		0.7438	0.5246
Role conflict	0.6674		
Role ambiguity	0.7637		
Role overload	0.6224		
Role insufficiency	0.7315		
Strain		0.8538	0.5943
Depression	0.8092		
Anxiety	0.8064		
Cognitive disturbance	0.7055		
Anger	0.7579		
Locus of control		0.8185	0.6028
L1	0.7759		
L2	0.8646		
L3	0.6774		
L4	0.7052		
L5	0.7111		
L6	0.7339		
L7	0.8041		
L8	0.7882		
Social support		0.7129	0.6348
Superiors	0.7537		
Colleagues	0.6517		
Family	0.9946		

AVE, average variance extracted

TABLE 4. Discriminant Validity

Model 1	LOC	STRAIN	STRESS	SUPPORT
LOC	0.7326	0	0	0
STRAIN	-0.2494	0.8253	0	0
STRESS	-0.2305	0.5905	0.7271	0
SUPPORT	0.0803	-0.3315	-0.2506	0.7857

Model 2	LOC	STRAIN	STRESS	SUPPORT
LOC	0.7764	0	0	0
STRAIN	-0.2082	0.7709	0	0
STRESS	-0.1721	0.4811	0.7243	0
SUPPORT	0.1345	-0.3626	-0.1457	0.7967

managers (Fig. 2). However, in Model 2 (Owners), only the STRESS→STRAIN and the SUPPORT→STRAIN relationships are significant (Fig. 3).

DISCUSSION

The continuous changes and increasing demands that characterize the current workplace context make it necessary to identify various individual characteristics (eg, LOC) and types of social support that serve as factors of vulnerability or protection in response to work stress.⁸¹ Certainly, effective management of such stress is determined by the manner in which people manage job stress. This fact is even more relevant in positions with more managerial duties, such as those of manager and owner. Enterprises have habitually performed human resource management by applying the same strategies and procedures, but the results presented in this study indicate that managers and owners differ and that the main divergences are exhibited in perceptions of job stress and social support. In this sense, the major strengths of this article are as follows: (1) the data were collected from knowledgeable managers and owners; (2) the main variables were measured with psychometrically validated and reliable instruments; (3) PLS path modeling was used to test the effects of LOC and social support on the stress-strain relationship; and (4) separate data analyses for owners and managers were useful in comparing the findings between the two groups.

Overall, the study provides support for the literature on stress management, which emphasizes the importance of a LOC and social

support in influencing stress and strain (eg,²¹). The results obtained by applying structural equation modeling show that these variables and their effects differ between managers and owners.

First, as proposed in hypothesis 1, stress positively relates to strain among both managers and owners, without differences between the two groups. This result is in line with that of Lu et al¹¹ concerning managers in Taiwan and the UK. These authors indicate that, regarding stress-strain relations, sources of stress were negatively related to job satisfaction, mental health and physical health.

Second, hypothesis 2 suggests that, to effectively handle the pressures, uncertainties, and challenges of the work of owners (which is higher among owners than it is among managers), it is better to be an internalizer than it is to be an externalizer. There is a general consensus that an internal LOC tends to be associated with positive outcomes, whereas an external LOC tends to be associated with negative outcomes.⁸² Against expectations, managers report a higher internal LOC than do owners. Nevertheless, this difference is scarce and nonsignificant, which leads to the conclusion that, in Model 1 (managers), LOC is consistently and negatively associated with stress and strain. However, its reducing effect on stress and strain is nonsignificant for the owners group (Model 2), contrary to what we posited in hypothesis 2. Because the managers score higher on the LOC scale than the owners do, they are in a position to manage stress more effectively than the owners. This circumstance is perhaps motivated by the managers' higher degree of control over events and their own future. By not having their destiny be directly

TABLE 5. Structural Model Results

Relationship	Model 1		Model 2	
	Path Coefficient	Support	Path Coefficient	Support
	$R^2_{STRESS} = 0.1273$		$R^2_{STRESS} = 0.1449$	
	$R^2_{STRAIN} = 0.3972$		$R^2_{STRAIN} = 0.3269$	
STRESS→STRAIN	0.5156*** (5.8453)	Yes	0.4213*** (5.5952)	Yes
LOC→STRAIN	-0.1152* (1.6117)	Yes	-0.0972 ns (1.2809)	No
LOC→STRESS	-0.2118** (2.8368)	Yes	-0.1553 ns (1.3349)	No
SUPPORT→STRAIN	-0.1931** (2.5881)	Yes	-0.2882** (2.9133)	Yes
SUPPORT→STRESS	-0.2336** (2.6389)	Yes	-0.1248 ns (0.9983)	No

Notes: *t* values in parentheses.

****P* < 0.001.

***P* < 0.01.

**P* < 0.05.

ns, not significant; based on *t* (4999), one-tailed test. *t* (0.05, 4999) = 1.645; *t* (0.01, 4999) = 2.327; *t* (0.001, 4999) = 3.092

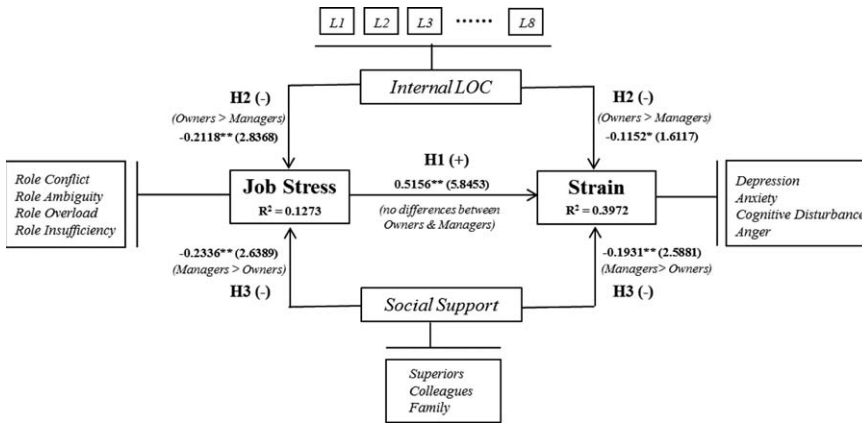


FIGURE 2. Summary of structural Model 1 results (managers).

linked to that of the company, as is the case with owners, managers have greater room to maneuver. Undoubtedly, control may influence the stressor-strain relationship. It is possible that successful managers are internalizers and that job stress is not a major problem for them. From this perspective, a manager with an internal LOC should be selected for high-stress jobs.

Third, social support is also an important variable in the stress-strain relationship. Owners receive less social support than do managers (especially from superiors and colleagues but also from the family). As a result, social support is negatively associated with stress and strain for managers but only with strain for owners. It is possible that the “owner’s loneliness” originates in a lack of social support from work (superior and colleagues) sources that fails to be compensated for by the social support provided by nonwork sources (family, friends, etc). This circumstance causes the level of stress experienced by the owners is not visibly reduced by this variable, which occur in the case of the managers.

This research comprises some relevant implications, both for theory and for practice. The most important theoretical implication is linked to the literature on stress management (which emphasizes the importance of a LOC and social support in influencing stress and strain), providing evidence of this relationship within the specific and rarely explored context of owners and managers. Even though the stress-strain relationship has been extensively analyzed, there is little empirical research that review this topic among professionals with managerial responsibilities at the corporate level,

whether these executives are owners or simply managers. Our results suggest that this relationship is not homogeneous, but that it differs between the two groups investigated. The study has also several practical implications. On the one hand, an internal LOC can help in better functionally coping with stress and strain. On the other hand, social support is a positive factor that contributes to better managing better this relationship. This study concludes that, in general, managers are more psychologically prepared and are also more strongly supported by their social network than owners are. Thus, they can act with greater effectiveness in everyday situations of job stress and strain, and consequently, they are better prepared to occupy more stressful jobs and positions of greater responsibility.

Despite the significant findings of this article, its intrinsic methodological limitations should be noted. First, the data were obtained through self-reporting, which is subject to a bias and distortion. A second problem in this way is social desirability bias. Given the sensitivity of the phenomenon under study, it could result in over reporting of positive behaviors and under reporting of negative behaviors. To correct these problems, we should use multimethod data and utilize objective measures that may reinforce stress-strain research (eg, managerial reports, scores from third parties, etc). Finally, because our data were cross-sectional, the relationships found in this study are correlational rather than causal. Therefore, longitudinal studies would be necessary to further investigate this matter.

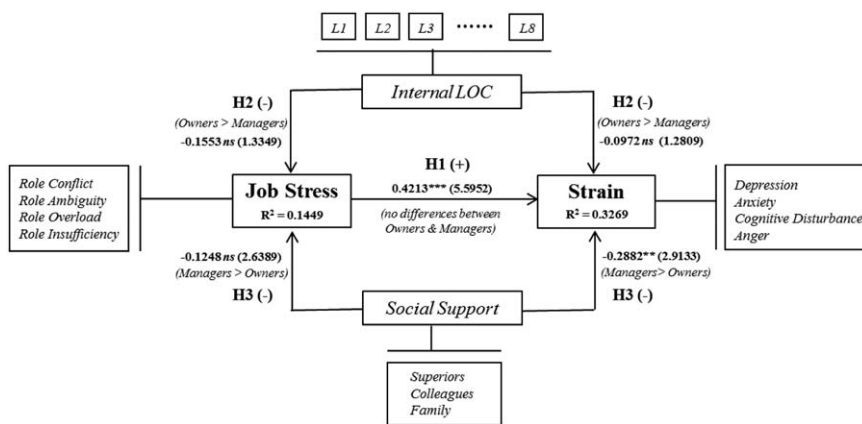


FIGURE 3. Summary of structural Model 2 results (owners).

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